



## Grade 5 Grade-Level Goals

## CCSS EDITION

| Content Strand: Number and Numeration                         |   |   |
|---|---|---|
| Program Goal  | Content Thread  | Grade-Level Goal  |
| Understand the Meanings, Uses, and Representations of Numbers | <i>Place value and notation</i>                               | Goal 1 Read and write whole numbers and decimals; identify places in such numbers and the values of the digits in those places; use expanded notation to represent whole numbers and decimals.  |
|   | <i>Meanings and uses of fractions</i>                         | Goal 2 Solve problems involving percents and discounts; describe and explain strategies used; identify the unit whole in situations involving fractions.  |
|   | <i>Number theory</i>  | Goal 3 Identify prime and composite numbers; factor numbers; find prime factorizations.   |
| Understand Equivalent Names for Numbers                       | <i>Equivalent names for whole numbers</i>                     | Goal 4 Use numerical expressions involving one or more of the basic four arithmetic operations, grouping symbols, and exponents to give equivalent names for whole numbers; convert between base-10, exponential, and repeated-factor notations.  |
|   | <i>Equivalent names for fractions, decimals, and percents</i> | Goal 5 Use numerical expressions to find and represent equivalent names for fractions, decimals, and percents; use and explain multiplication and division rules to find equivalent fractions and fractions in simplest form; convert between fractions and mixed numbers; convert between fractions, decimals, and percents. |
| Understand Common Numerical Relations                         | <i>Comparing and ordering numbers</i>                         | Goal 6 Compare and order rational numbers; use area models, benchmark fractions, and analyses of numerators and denominators to compare and order fractions and mixed numbers; describe strategies used to compare fractions and mixed numbers.   |





## Grade 5 Grade-Level Goals

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| Content Strand: Operations and Computation |  |  |
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| Program Goal                               | Content Thread   | Grade-Level Goal   |
| Compute Accurately                         | <i>Addition and subtraction procedures</i>                     | Goal 1 Use manipulatives, mental arithmetic, paper-and-pencil algorithms and models, and calculators to solve problems involving the addition and subtraction of whole numbers, decimals, and signed numbers; describe the strategies used and explain how they work.  |
|  | <i>Multiplication and division facts</i>                       | Goal 2 Demonstrate automaticity with multiplication and division fact extensions.  |
|  | <i>Multiplication and division procedures</i>                  | Goal 3 Use manipulatives, mental arithmetic, paper-and-pencil algorithms and models, and calculators to solve problems involving the multiplication of whole numbers and decimals and the division of multidigit whole numbers and decimals by whole numbers; express remainders as whole numbers or fractions as appropriate; describe the strategies used and explain how they work. |
|  | <i>Procedures for addition and subtraction of fractions</i>    | Goal 4 Use mental arithmetic, paper-and-pencil algorithms and models, and calculators to solve problems involving the addition and subtraction of fractions and mixed numbers; describe the strategies used and explain how they work.   |
|  | <i>Procedures for multiplication and division of fractions</i> | Goal 5 Use area models, mental arithmetic, paper-and-pencil algorithms and models, and calculators to solve problems involving the multiplication of fractions and mixed numbers; use visual models, paper-and-pencil methods, and calculators to solve problems involving the division of fractions; describe the strategies used.  |
| Make Reasonable Estimates                  | <i>Computational estimation</i>                                | Goal 6 Make reasonable estimates for whole number and decimal addition, subtraction, multiplication, and division problems and fraction and mixed number addition and subtraction problems; explain how the estimates were obtained.   |
| Understand Meanings of Operations          | <i>Models for the operations</i>                               | Goal 7 Use repeated addition, arrays, area, and scaling to model multiplication and division; use ratios expressed as words, fractions, percents, and with colons; solve problems involving ratios of parts of a set to the whole set.   |





## Grade 5 Grade-Level Goals

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| Content Strand: Data and Chance  |   |  |
|--|---|--|
| Program Goal   | Content Thread                            | Grade-Level Goal   |
| Select and Create Appropriate Graphical Representations of Collected or Given Data | <i>Data collection and representation</i> | Goal 1 Collect and organize data or use given data to create graphic displays with reasonable titles, labels, keys, and intervals.   |
| Analyze and Interpret Data   | <i>Data analysis</i>                      | Goal 2 Use the maximum, minimum, range, median, mode, and mean and graphs to ask and answer questions, draw conclusions, and make predictions.   |
| Understand and Apply Basic Concepts of Probability                                 | <i>Qualitative probability</i>            | Goal 3 Describe events using certain, very likely, likely, unlikely, very unlikely, impossible and other basic probability terms; use more likely, equally likely, same chance, 50-50, less likely, and other basic probability terms to compare events; explain the choice of language  |
|  | <i>Quantitative probability</i>           | Goal 4 Predict the outcomes of experiments, test the predictions using manipulatives, and summarize the results; compare predictions based on theoretical probability with experimental results; use summaries and comparisons to predict future events; express the probability of an event as a fraction, decimal, or percent. |





## Grade 5 Grade-Level Goals

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| Content Strand: Measurement and Reference Frames   |  |  |
|--|--|--|
| Program Goal   | Content Thread                               | Grade-Level Goal   |
| Understand the Systems and Processes of Measurement; Use Appropriate Techniques, Tools, Units, and Formulas in Making Measurements | <i>Length, weight, and angles</i>            | Goal 1 Estimate length with and without tools; measure length with tools to the nearest 1/8 inch and millimeter; estimate the measure of angles with and without tools; use tools to draw angles with given measures.  |
|  | <i>Area, perimeter, volume, and capacity</i> | Goal 2 Describe and use strategies to find the perimeter of polygons and the area of circles; choose and use appropriate methods, including formulas, to find the areas of rectangles, parallelograms, and triangles, and the volume of a prism; define pi as the ratio of a circle's circumference to its diameter. |
|  | <i>Units and systems of measurement</i>      | Goal 3 Describe relationships among U.S. customary units of measure and among metric units of measure.   |
| Use and Understand Reference Frames  | <i>Coordinate systems</i>                    | Goal 4 Use ordered pairs of numbers to name, locate, and plot points in all four quadrants of a coordinate grid.   |





## Grade 5 Grade-Level Goals

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| Content Strand: Geometry  |                                     |  |
|---|-------------------------------------|--|
| Program Goal  | Content Thread                      | Grade-Level Goal   |
| Investigate Characteristics and Properties of Two- and Three-Dimensional Geometric Shapes | <i>Plane and solid figures</i>      | Goal 1 Identify, describe, compare, name, and draw right, acute, obtuse, straight, and reflex angles; determine angle measures in vertical and supplementary angles and by applying properties of sums of angle measures in triangles and quadrangles. |
|   | <i>Plane and solid figures</i>      | Goal 2 Describe, compare, and classify plane and solid figures using appropriate geometric terms; identify congruent figures and describe their properties.  |
| Apply Transformations and Symmetry in Geometric Situations                                | <i>Transformations and symmetry</i> | Goal 3 Identify, describe, and sketch examples of reflections, translations, and rotations.  |





## Grade 5 Grade-Level Goals

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| Content Strand: Patterns, Functions, and Algebra                          |  |   |
|---|--|---|
| Program Goal  | Content Thread   | Grade-Level Goal  |
| Use Algebraic Notation to Represent and Analyze Situations and Structures | <i>Patterns and functions</i>                          | Goal 1 Extend, describe, and create numeric patterns; describe rules for patterns and use them to solve problems; write rules for functions involving the four basic arithmetic operations; represent functions using words, symbols, tables, and graphs and use those representations to solve problems. |
|   | <i>Algebraic notation and solving number sentences</i> | Goal 2 Determine whether number sentences are true or false; solve open number sentences and explain the solutions; use a letter variable to write an open sentence to model a number story; use a pan-balance model to solve linear equations in one unknown.  |
|   | <i>Order of operations</i>                             | Goal 3 Evaluate numeric expressions containing grouping symbols and nested grouping symbols; insert grouping symbols and nested grouping symbols to make number sentences true; describe and use the precedence of multiplication and division over addition and subtraction.                             |
|   | <i>Properties of the arithmetic operations</i>         | Goal 4 Describe and apply properties of arithmetic.   |

